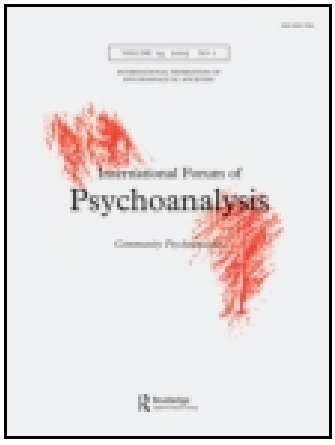

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Neurobiological correlates of object relations theory: The relationship between neurobiological and psychodynamic development

OTTO F. KERNBERG*

Abstract
The author proposes a general developmental frame that integrates the psychoanalytic theory of development, rooted in psychoanalytic object relations theory, with neurobiological aspects of the development of social cognition, the theory of mind, and the complex issue of empathy. It represents the next step in the integration of the author's earlier work on the developmental hierarchy of motivational systems with recent findings on affective neuroscience. A general conclusion relates to the parallel and mutually influential development of neurobiological affective and cognitive systems, ultimately controlled by genetic determinants, and psychodynamic systems, ultimately corresponding to both reality and motivated distortions of the internal and external relations with significant others. From the point of view of the psychoanalytic treatment of severe psychopathology, with fixation at the level of identity diffusion, the concepts of interpretation and mentalization as well as structural change are reformulated.

Key words: *psychoanalytic object relations theory, neurobiological aspects of development, motivational systems, severe psychopathology, mentalization, structural change, empathy*

Neurobiological foundations

The concept of personality

What follows is an overview of the present neurobiological understanding of early development that is relevant for the assumptions of contemporary psychoanalytic object relations theory. I shall review briefly some major areas of neurobiological investigation that, jointly, provide a neurobiological background and a foundation for the analysis of the early development of internalized object relations. The relevant areas of neurobiological development include the activation of affective systems, the differentiation of self from others, the development of a theory of mind and of empathy, the evolution of the self-structure, and the development of processes of mentalization.

We begin with a brief overview of a psychoanalytic concept of personality organization that should help to illustrate the interaction between assumed genetic dispositions and related, constitutionally available psychological functions, on the one hand, and the assumed influence of early object relations on the development of the personality, on the other. The basic components of personality organization include temperament, character, identity, value systems, and intelligence (Kernberg, in press-a).

Temperament is the genetically determined, constitutionally given, reactivity of the organism in terms of affective, cognitive, and behavioral responses to environmental stimulation. Affective responsivity is the essential aspect of temperament, observable from birth onward. Affects are considered as primary motivators of behavior and may be grouped as systems that involve various basic affects in different combinations (Diamond & Blatt, 2007; Krause, 2012). The basic affective systems are attachment, eroticism, fight–flight, play-bonding, separation–panic, and "seeking" (Wright & Panksepp, 2014). The specific search for stimulus gratification is based on the activation of a series of corresponding affect-determining neurotransmitter activities. Affects now are considered as complex neurobiological systems that bridge the boundary between physiological and mental experience, signaling to the organism its internal, desirable or undesirable subjective state, and simultaneously signaling to the infant's mothering object the affective state of the infant. Affects, in short, have a subjective and a communicative function, in addition to their direct behavioral manifestations, neurovegetative discharge, and cognitive framing. Cognitive framing is an essential aspect of affect activation, and conveys information regarding the stimulus impinging on the organism in terms of "Where is it?," "Is it good or bad for me?," "What shall I do about it?"

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From a psychoanalytic point of view, *affects as primary motivational systems* raise questions regarding the extent to which drives are constituted by the integration of corresponding positive ("libidinal") or negative ("aggressive") affects, and the extent to which affects are the expression of these assumed underlying corresponding drives. In any case, affects initiate the interactions between self and other, and the internalization of these interactions, in the form of affective memory, determines the internalized models of behavior (in attachment terminology), or internalized object relations (in psychoanalytic object relations theory language). These internalized models, or object relations, gradually determine integrated, reactive habitual behavior patterns that constitute character. The subjective organization of the experience of self, as part of internalized object relations, gradually consolidates into an integrated concept of self, with a parallel organization of the concept of significant others, in other words, *normal identity* (Kernberg, 2012a). Normal identity represents the subjective correlate of character, while character reflects, in its dynamic integration of behavior patterns, the behavioral expression of identity. The gradual internalization of noninstrumental, general rules of social behavior or ethical value systems (the "superego" in psychoanalytic terms) constitutes a secondary level of personality organization derived from the internalization of object relations. Finally intelligence is constituted by the very potential for the cognitive framing of affective experience, and of all perceived experiences in general, with the potential for the abstraction of concrete experience into general rules and the comprehension of the relation between self and the physical and psychosocial environment. In short, temperament, character, identity, value systems, and intelligence are the components of the personality, and we shall now explore the neurobiological basis for the development of these personality structures.

The development and integration of affective systems

There is now clear evidence of the very early emergence of major primary affects, which make their appearance in the first few weeks and months of life. The neurobiological structures and affect-determining neurotransmitter systems are in place at the time of birth. These primary affects include joyfulness, rage, surprise, fear, disgust, sadness, and (widely neglected) sensual excitement related to bodily surfaces, the basis of the capacity for sexual excitement. Each of these is characterized by specific neurotransmitters activated by an organismic disequilibrium of homeostatic balance and rewarding or aversive environmental stimuli. Affects are grouped into the systems referred to above, particularly attachment, play-bonding, fight–flight, separation–panic, eroticism, and seeking. Seeking is a basic nonspecific motivation for stimulus gratification, which may attach itself to any of the other affective systems mentioned, and provides a basic explanation regarding why, under particular conditions of gratification or stimulation, there may be a tendency to an excessive activation of aggressive or affiliative affective systems (Wright & Panksepp, 2014).

The brain structures that control affect expression are basically centered in various levels of the limbic system (Roth & Dicke, 2006). The basic structure, the hypothalamus, controls the homeostatic bodily systems and is involved in the activation of both positive and negative affects in terms of the regulation of temperature, hunger, thirst, fight–flight reactions, and sexual excitement. A general classification of affective systems into affiliative and aversive ones reflects the motivational tendency of movement toward the affiliative gratifying stimuli and situations, and movement away from aversive situations and stimuli. The nucleus accumbens and the tectum are involved in positive affect activation, the amygdala in the activation of negative affects: the lateral amygdala is related to fear, and the central amygdala is related to rage. Sexual stimulation is activated in the ventral septal area, the ventral area of the stria terminalis, and the preoptic area of the hypothalamus.

It needs to be stressed that positive and negative affect-activating brain structures are separate from each other, and that at, a basic level of affect activation, a complete separation of positive and negative affect evolves. The integration of positive and negative affects, both in terms of the cognitive framing of an actual situation in which such affects are activated and in terms of a mutual modulation of such combined affect states, itself only occurs at a higher level of limbic structures and functions that involve limbic and cortical interaction, particularly the prefrontal and preorbital cortex and the anterior cingulum. In that general area, affect activation integrates the presently determined affective activation, the corresponding declarative or semantic memory input from sensorial–thalamic information, and affective memory input derived partly from hypothalamic sources and mostly from the affective memory storage entered in the hippocampus. The hippocampus represents the structure involved in the registration and preservation of affective memory. It is only at the higher level, at the prefrontal and preorbital cortex–anterior cingular junction, that positive and negative affect systems can be integrated into a total affective–cognitive frame (Roth & Dicke, 2006).

The origin of the self: Self reflection and integration

The subjective experience of the self involves the activation of several independent brain structures signaling the various components of the self-concept that are brought into play simultaneously (Zikles, 2006). These include the left and right temporoparietal junctions, the superior temporal sulcus, the medial prefrontal cortex, and the paracingulate cortex as the basic brain structures involved. In addition, a broader network involving the bilateral temporal cortex, the precuneus, and the amygdala is also activated. The perception of others, in interaction with self, involves the dorsolateral prefrontal cortex, the posterior parietal cortex, and the temporo-occipital cortex. This broad spectrum of involvement of various brain structures in activation of the full experience of the interaction of self and others reflects, in terms of the total subjective self experience, the following functions of the "embodied self."

The "embodied self" includes the availability of the contribution of consistent subjective background information, and the actual consciousness of the self experience. The background information includes the ownership of one's own body (derived from information provided by the thalamus–cortical system) and the internal affective state. This state involves information from the hypothalamic and midbrain structures, that is, the amygdala, nucleus accumbens, periaqueductal gray, and tegmentum. In addition, background information involves the location of self in space (given by the superior and inferior colliculi), the authorship and control of one's own actions provided by the mirror system, and finally, cognitive development involving the "theory of mind," that is, the capacity to differentiate clearly one's own fantasy (wishes and fears) and realistic perceptions from the realistic perception of another person's thinking activity (Förstl, 2012). Against all this background information, the following functions imply actual consciousness of the self: the perception of the present environment and the identification of social reality; cognitive functions involving thinking, imagining, and remembering; and the affective system reflecting present motivation.

In short, the psychological permanence of the concept of the self corresponds to a neurobiological potential that flickers on in a momentary fashion when we evoke our self-experience. In terms of the integration of varying experiences of self in different circumstances, it needs to be repeated that only the prefrontal cortex–anterior cingulate system can integrate positive and negative affective self experience, and that this integration cannot occur at the level of the hypothalamus, the amygdala, or the hippocampus, where the positive and negative affective systems run separately.

In terms of the developmental stages of integration of the self, one may define: an early proto-self, determined by bodily homeostasis; the core self, which involves a conscious placement of oneself in space and time; and, finally, the mature, stable self concept, which includes autobiographical memory, anticipation, the linguistic self, the mental self, and the social self. The central neurobiological structure involved in this integration, as mentioned above, is the junction of the ventromedial prefrontal cortex and the anterior cingulate cortex. This area carries out a central function in the neurobiological integration of all the components of the self.

The early development of differentiation of self and other

At this time, there is general agreement on and broad confirmation of the capacity for an early cognitive differentiation between self and other, including the following, now classical, evidence of such differentiation, which emerges during the first six to eight weeks of life (Gerzely & Unoka, 2011; Roth, 2009). Infants, at that point, show different reactions to animate faces and inanimate patterns. They are able to differentiate their mother's voice from other voices. They present a smiling response to "not me" interactional experiences, and have a capacity for multimodal transfer, that is, visually identifying an object that differs from another in terms of its shape previously experienced while holding that object in the baby's mouth. The infant also is able to follow movement and the size of visual stimuli. These early indications of the capacity to differentiate experience originating in the self from external experience develops dramatically during the first six months, and up to the first 18 months of life.

At six months, there is a further discrimination of others' facial expressions as representing emotions. Between six months and two years of age, there develops a capacity to understand the action of others as indicating desire. Between 12 and 14 months, gaze perception is understood as indicating interest; and between 12 and 18 months, there is evidence of an attribution of mental states to others, mostly as "equivalency." This means that, throughout all these functions, there is an early attribution of mental states to others that, under peak affective states, is overshadowed by an attribution to others of the same emotion the infant experiences. By the third to fourth year, there develops the capacity to attribute complex beliefs to others, and somewhere around the end of the third and the beginning of the fourth year appears the capacity to attribute false beliefs to others (in

contrast to the child's realistic knowledge of the present situation) (Förstl, 2012).

The capacity to understand others is strongly dependent on Gallese's mirror neuron systems, that is, the internal replication at a neuronal level of the actions, perceptions, and emotions of others. This replication determines the development of social cognition, as do actual interpersonal interactions. The role of emotional recognition is powerfully reinforced by language. Between 18 months and three years of age, the development of the verbal self contributes to differentiating clearly between "I" and "you." Between 24 and 36 months, the potential for "negativism" develops, but also the capacity for the integration of good and bad images of the mother, indicating the achievement of "object constancy," that is, the integration of positive and negative affective relations. Between three and five years, finally a full development of a "private self" evolves, and all these systems in the development of the understanding of self and others contribute to strengthening the capability of a theory of mind (Gemelli, 2008; Newen & Vogely, 2012).

Empathy and compassion

The capacity for empathy has to be differentiated from the capacity for theory of mind. Empathy involves feeling what the other is feeling, knowing what the other is feeling, and, particularly, empathy for pain in another. Empathy involves the activation of several brain structures: the anterior portion of the insula, the ventromedial prefrontal cortex, the anterior circulate cortex, the lateral prefrontal cortex, and the cerebellum. As mentioned above, the ventromedial prefrontal cortex/anterior cingulate cortex is centrally involved in the assessment of self and the interaction between self and others, with the lateral prefrontal cortex, in contrast, involved in the assessment of others. In addition, the anterior portion of the insula has a significant function in the general recognition of social situations.

Empathy seems to be dependent on various brain functions, first of all contagion. From the first few weeks of life, by mechanisms as yet unknown, a "contagion" of feelings among infants can be observed that may not involve mirror systems at all, but rather constitute an ancient phylogenetic subcortical system. In addition, there may be a role for the "gating function," by which affects related to attachment, play-bonding, and erotic stimulation, that is, all positive, affiliative affective systems, determine intense attention to the other involved in such relations. Finally, empathy is strongly influenced by the mirror neuron systems: first the cortical (primordial) mirror systems, but later, widely distributed mirror functions involving the insula, the parietal cortex, and the temporal cortex contribute to a general "cognitive-emotional recognition system."

There is empirical evidence for the early development of the capacity for empathy (Bråten, 2011; Richter, 2012). The observation of infants aged between 12 and 14 months in the presence of another infant who shows an indication of negative affective reactions or suffering permits the classification of infants' reactions into four types: (1) "helpers," trying to go to the help of the one who seems to be suffering; (2) affected infants who are not helpers – they are concerned, but do not intervene; (3) infants who appear "confused," not responding, but in some way resounding with the suffering other; and finally (4) "indifferent" ones, with a reaction related to the non-self recognition of these infants in the mirror.

In general, empathy appears to originate in affective processes but gradually becomes enriched with cognitive development (Roth & Dicke, 2006; Zikles, 2006). At first, structures with affective activation are involved, such as the brainstem regions, periaqueductal gray, amygdala, and striatum, the septal region, the hypothalamus, and the autonomic nervous system. Gradually, cognitive processes become more and more involved, including the paralimbic region, the cingulate cortex, the insula, and the orbitofrontal region. In short, the capacity for empathy has genetic roots, but it is intimately related to affective development and the differentiation between self and other.

Psychoanalytic object relations theory

Basic developmental concepts

Psychoanalytic *object relations theory*, in all its major variations, corresponds to a dominant contemporary development of psychoanalytic theory and technique. It proposes the internalization of significant relations between self and others as the fundamental building blocks of the mind (Kernberg, 2004). The internalization of such significant relations in the form of dyadic units of self and object representations, linked by the affect in which they are experienced, constitutes the basic infrastructures of the mind. The consolidation and gradual integration of these dyadic units into more complex, supraordinate structures leads to the development of the tripartite structure of ego, superego, and id. In other words, the basic mental structures proposed by psychoanalytic object relations theory would really be constituted by various degrees of integration of the component internalized dyadic and, subsequent, triadic object relations structures. That the intrapsychic organization of such basic dyadic units constitutes the fundamental structures of the personality was first formulated by

Fairbairn (1954) and Melanie Klein (1952), and, in different ways, also proposed by Edith Jacobson (1964) and Margaret Mahler (Mahler, Pine, & Bergman, 1975) within ego psychology. In still different ways, this development also was conceived by various authors of the culturalist and relational psychoanalytic approach (Kernberg, 2011). These basic internalized self /object representational dyads are conceived as being embedded in peak affective states, both positive and negative, determining, respectively, "all good" and "all bad," "idealized" and "persecuting" mental structures. It was the effort to objectify in behavioral terms these assumed intrapsychic structures that led Bowlby and Ainsworth to develop contemporary attachment theory as the behavioral correspondence of the internalized object relations set up under the influence of the early mother–infant relationship (Diamond & Blatt, 2007).

Psychoanalytic object relations theory implies two basic levels of development. First, under the dominance of peak affect states, a dual psychic structure is built up: on the one hand, a psychic structure constituted by idealized self representations relating to an idealized other (infant and mother) under the dominance of strong positive, affiliative affective states; on the other, an opposite dyadic set of relationships developed under the dominance of strongly negative, aversive, painful affects, constituted by a frustrating or aggressive representation of the other related to a frustrated, enraged, or suffering self representation (Kernberg, 2004). This concept of the internalization of all good and, completely separately, all bad internalized object relations leads to an intrapsychic structure characterized by primitive dissociative or "splitting" mechanisms. These mechanisms include primitive dissociation or splitting itself, and the derived psychological mechanisms of projective identification, primitive idealization and devaluation, omnipotence and omnipotent control, and denial.

In contrast to these early developments under conditions of peak affect states, early development under conditions of relatively low affect states would evolve under the control of the available cognitive functions, the instinctive ("seeking" system) impulses for learning about reality, and lead to early concepts and understandings of animate and inanimate reality that would develop in parallel with the splitting system of emotional experiences under the conditions of peak affective states. In these early circumstances, there would not as yet exist an integrated sense of self or the capacity for an integrated view of significant others. The representations of significant others would be split or dissociated similarly to those of the self, according to the corresponding idealized or persecutory peak affect states. In this regard, the term "persecutory" refers to the attribution of the predominant state of pain, of rage, of "badness" in general, to the correspondent intentionality attributed very early to the significant other within such a negative or aversive state. But, under low affect states, the more realistic representations of external reality are being built up, to be integrated with the development of internalized object relations at the next, or second, level of development.

At a second level of development, gradually emerging over the first three years of life, the progressive development of a realistic cognitive comprehension of the surrounding world, and particularly the predominance of good over bad experiences, facilitates the gradual integration of emotionally opposite conditions, the tolerance of the simultaneous awareness of both good and bad experiences. This development of the tolerance of ambivalence, of combined positive and negative emotional relations with the same external objects, gradually leads to an integrated sense of self and significant others, or, put another way, to normal ego identity. Ego identity corresponds to an integrated sense of self and the capacity for an integrated view of significant others.

This second level of development corresponds to the "depressive position" within Kleinian theoretical formulations. It signals the development of *normal* psychological functioning, or pathology at a neurotic level of organization. In contrast, the development of character pathology at a borderline level of personality organization, corresponding to Klein's "paranoid-schizoid position," represents the consequence of a lack of achievement of the integration of normal identity. Borderline personality organization, in other words a severe level of personality disorder, is characterized, in fact, by a lack of identity integration or the syndrome of identity diffusion, the permanence of predominant primitive defensive operation centering around splitting, and certain limitations in reality-testing in terms of deficits in the subtle aspects of interpersonal functioning.

Psychoanalytic object relations theory proposes that the shift from borderline personality organization to neurotic and normal personality organization also corresponds to a shift from the predominance of primitive defensive operations to advanced defensive operations centering on repression and its related mechanisms, including a higher level of projection, negation, intellectualization, and reaction formations. This advanced level of development is reflected in a clear delimitation of a repressed, dynamic unconscious, or "id," constituted by unacceptable internalized dyadic relationships reflecting intolerable primitive aggression and aspects of infantile sexuality. The ego now includes the integrated, conscious self-concept, and the representations of significant others,

together with the development of sublimatory functions reflected in an adaptive expression of affective, emotional needs regarding sexuality, dependency, autonomy, and aggressive self-affirmation. Internalized object relations that include ethically derived demands and prohibitions transmitted in the early interactions of the infant and child with his psychosocial environment, particularly the parents, are integrated into the "superego." This latter structure is constituted by layers of internalized prohibitions and idealized demands, significantly transformed into a personified, abstracted, and individualized system of personal morality (Kernberg, 2004, 2012a).

The basic assumption of object relations theory regarding its relation to underlying neurobiological structures is that the dyadic units of internalized object relations reflect the availability of a differentiation of self from others from the first few months of life on, and that representations of self and other become intimately related under the effect of peak affect states. It is assumed that such units of self and object representations, under the respective dominance of positive or negative affect activation, are internalized as affective memory. The integration of the self and object representations from split or "partial" to "total" or whole representations would depend on the predominance of positive relationships and the correspondent positive segment of psychic experience. Otherwise, this integration would be threatened by the predominance of the negative segment of internalized object relations. In this case, in order to prevent a catastrophic "flooding" of mental experience by such a negative view of all reality, a defensive fixation at the early stage of primitive dissociation or splitting takes place, determining the syndrome of identity diffusion.

Primitive mental mechanisms of splitting and their derivatives would be based on biological, subcortical limbic developments of separate positive and negative affective systems, and their potential integration would be based on a cortical level of processing of emotional experience originally sharply dissociated (Roth, 2009). In more general terms, the intrapsychic structures represented by object relations theory reflect a second, intrapsychic level of organismic organization, based on a primary, neurobiological one (Kernberg, in press-b). The review of present-day knowledge regarding early neurobiological development indeed strengthens the theoretical assumptions of psychoanalytic object relations theory, and may provide a neurobiological basis reinforcing the developmental assumptions of personality organization (Gemelli, 2008). The fact that positive and negative affects are strictly separated at lower limbic levels, and can only be integrated at the level of the prefrontal and preorbital cortex and anterior cingulate level of elaboration of affective–cognitive experience, reinforces the basic tenents of psychoanalytic object relations theory.

Mentalization reconsidered

Mentalization refers to the realistic interpretation of behavior of the self and others in terms of intentional mental states (beliefs, desires, fears), and the ability to reflect on such experienced mental states. Mentalization is a consequence of the gradual development of the cognitive differentiation of self and other, the cognitive contextualization of affective states, the development of a theory of mind, empathy, and the very integration of the self (Kernberg, 2012b). On the basis of what has been said so far, it is possible to differentiate two phases in the process of mentalization: an early phase, in which the understanding of a present affect state develops in terms of an immediate object relationship, and a later phase in which the understanding of this immediate object relationship may be related to the background of self experience and the background of the experience of others within the present social context. In other words, to be able to reflect on the meaning of a present interaction is not the same as to be able to modify that meaning under the impact of the memory of related affective interactions under very different and opposite conditions to the present interaction. This second function, contextualizing the immediate present in the light of the reflected present, is severely disturbed under conditions of identity diffusion, given the lack of an integrated self and integrated object representations. The predominance of nonintegrated "persecutory" over "idealized" segments of experience predisposes the individual to a negatively distorted interpretation of present interpersonal interactions, reinforced by the activation of primitive defensive operations of splitting, projective identification, denial, omnipotent control, and devaluation, potentially determining vicious cycles of pathological interactions that reconfirm split-off negative mental experiences.

Borderline personality disorder: A paradigmatic personality disorder under conditions of borderline personality organization

Neurobiological features. These patients present evidence of a genetic predisposition to borderline personality disorder, reflected in substantive family aggregation and a genetically determined reduction in serotonin transporter gene functions. They also show a deficit in the attentional control network, with hypoactivity in the prefrontal regions, and abnormalities in the anterior cingulate cortex, the ventromedial prefrontal cortex, the midbrain, and

the ventral striatum. We see a decreased function of cortical and subcortical midline brain structures, as well as "reflexive" versus "reflective" reactivity to emotional, particularly negative, stimuli, and evidence of hyperactivity of the amygdala, indicating augmentation of negative affectivity. In short, these patients evince neurobiological deficits and alterations in brain structures that clearly affect the normal integration of the positive and negative segments of affective experience (Kernberg, in press-b; Siever & Weinstein, 2014; Sokol & Gunderson, 2008).

Severe childhood trauma. These patients show evidence of severe childhood trauma and sexual abuse, problematic parenting, a predominance of hostile object relations beginning in early childhood, insecure attachment styles, and a limited capacity for symbolization or reflection (Koenigsberg, Prohovnik, Lee, Pizzarello, New, & Siever, 2007). In short, severe childhood trauma represents another major etiological factor predisposing to dysfunction by the predominance of the segment of negative emotional experiences.

How do all these features relate to each other? Genetic disposition to heightened temperamental negative affect reactivity is reinforced by severe childhood trauma. The decreased processes of self-regulation related to low executive function and low effortful control, derived from the combination of constitutionally low-functioning prefrontal and pre-orbital control centers, the dominance of negative affects, and the failure of positive social reinforcement all contribute to a predominance of negative reactivity that powerfully leads to a lack of behavioral control and to impulsivity (Sokol & Ganderson, 2008).

The heightened rejection sensitivity derived from a dominance of negative affective interactions, "reflexive" stimuli processing under conditions of an inadequate "reflective" function, and the lack of mentalization related to the predominance of splitting mechanisms all come together in contributing to these patients' impulsivity, aggression, affective dysregulation, abnormal interpersonal patterns, and chaotic self experience (Koenigsberg et al., 2007).

What does object relations theory contribute to the understanding and treatment of borderline personality disorder?

The predominance of the negative, persecutory segment of experience precludes the integration of normal identity. The fact that all peak affect states involve a relationship between self and others illustrates the negative coloring of all relationships when such negative experiences predominate, which powerfully maintains and reinforces a borderline personality organization: negative affect activation activates negative relationships between self and others, and the original "equivalence" nature of attributed affects under positive or negative affective interactions evolves into a predominately "persecutor"–"victim" relationship that is fixated and reactivated under negative stimulation. And finally, consistent efforts evolve to reverse the persecutory relationship, that is, to become the victimizer rather than being the victim, in order to maintain an idealized dominant power position that, in fact, contributes to reinforcing and maintaining the dominance of severely distorted bad relationships with significant others.

The predominance of primitive defensive operations, geared to maintaining an idealized state that, in fact, is unavailable, prevents the resolution of this split structure, and perpetuates the cycle by defensively maintaining the segmentation of positive and negative experiences of self and other. Projective identification maintains the attribution of aggression to others. The reliance on omnipotent control translates into efforts of coercion and reinforces conflicts with others, the mechanism of devaluation leads to the destruction of potentially good relations, and the lack of affective integration maintains the primitivity of negative affects, and fosters impulsivity in order to deal with unavoidable negative experiences (Kerberg, 2012a, 2013).

Transference-focused psychotherapy as a treatment for borderline personality organization

The general assumption that patients with borderline personality organization present with a predominance of the aggressive, persecutory segment of early experience, whatever its origin, which prevents identity integration, leads us to propose that a treatment geared to achieving identity integration will permit the integration of the concept of self, thus increasing cognitive control; it would integrate the concept of others, thus normalizing social life, and integrate the experience of contradictory affects, leading to affect modulation and reduction of impulsivity (Kernberg, Yeomans, Clarkin, & Levy, 2008). With these assumptions, the strategy of transference-focused psychotherapy (TFP) consists of clarifying the object relations activated in the treatment situation (the transference), at each affectively dominant point, regarding both positive and negative experiences. We attempt to facilitate the patient's tolerance and awareness of conflicting mental states. By means of the clarification and ultimately interpretation of dissociated mental states, we foster mentalization under conditions of the dominant splitting operations. In the treatment situation, the activation of such split-off

object relations tends to produce "role reversals" in the transference, in other words an interchange of the roles of self and object in the patient's experience of his relationship with the therapist, which permits the patient gradually to accept his unconscious identification with both victim and persecutor, and, at the same time, to understand that his idealizations also have an unrealistic quality, and represent a protective function against the opposite, negative segment of his experience (Clarkin, Yeomans, & Kernberg, 2006).

The therapist, maintaining technical neutrality while protecting the therapeutic frame, permits a gradual introduction of a "three-person psychology." In other words, his specific function is that of an "excluded" outsider or excluded third who helps the patient to diagnose the split-off idealized and persecutory states, and gradually link them together, pointing to their distorting effects regarding the reality of the therapeutic interaction. In this context, the interpretation of primitive defenses and of the metaphorical significance of activated object relations in the transference permits the gradual tolerance of such primitive, originally split object relations, and their eventual elaboration into an integrated sense of self. At the same time, interpretations facilitate an integrated sense of the significant other, the achievement, in Kleinian terms, of the depressive position, and the expansion of analysis of the patient's corresponding problems, as they surface in the transference, in work and profession, love and sex, social life and creativity.

In short, an object relations approach permits dealing directly with the character structure of borderline personality disorder, reflecting borderline personality organization in general terms, rather than focusing in a restricted way on the particular symptoms of these patients. The clarification of the object relations implications of affect activation during the sessions increases cognitive control and permits the patient to overcome the splitting between persecutory and idealized relations. The mentalization of primitive affective states is commensurate with an interpretive approach to the primitive object relations activated in the transference. An integration of complex affective systems, involving aggression, sexuality, dependency, and autonomy, may be achieved in the study of the personal meanings involved in the activation of the patients' affect states.

In recent developments of this treatment, major attention has been given to the normalization of the pathological consequences of insecure attachment. We would add that all primitive affective systems are involved in significant distortions of the early experiences of these patients, not only the attachment system, but also the play-bonding system, and particularly the patient's erotic affective system. Important aspects of exploration of the transference in TFP involve disturbances of the capacity to integrate tenderness and eroticism, developing normal object relations in depth, including the development of normal sexuality and its integration with love and the capacity for commitment, effectiveness, and enjoyment in work and profession .

As an overall conclusion to this paper, I would stress that there are two levels of personality development and personality integration: a neurobiological one and an intrapsychic/existential one, which influence each other and are influenced by the psychosocial environment: this is relevant for the analysis of personality structure, development, and pathology. The direct treatment of the personality structure as a treatment approach for borderline personality organization is the ultimate objective of TFP.

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